

2004
S/CAR/01/10/101, 12/00
2017, 110

From the high saturation ...

7.63% of $MnCO_3$, 1.34% of MgO , and 6.61% of CuO . Briquettes were previously annealed for 2hr at $900^{\circ}C$. All ferrite types mentioned were tested at helium temperature. Testing methods and investigation results are described in Ref. 3 (Misezhnikov, G. S., Rozenberg, Ya. I., Shteynshleyger, V. B., Present Periodical no. 11, 1961, 1430). At these temperatures, the line of ferrimagnetic resonance is considerably widened and attains values of 800 oersteds (M-258) and more (P-28, M-55). The saturation magnetization does not increase essentially and reaches a value of 5600 gauss for M-258. [Abstracter's note: Essentially complete translation.] There are 3 references: 2 Soviet and 1 non-Soviet. The reference to the English-language publication reads as follows:
Ref. 2: American Institute of Physics Handbook, p. 5, 217, N. Y., 1957.

Card 3/3

L 17167-63

EWT(1)/BDS AFFTC/ASD

ACCESSION NR: AP3004294

S/0170/63/006/007/0060/0065

AUTHOR: Fabrikov, V. A. 51

TITLE: On the thermodynamic interpretation of the Manley and Rowe theorem in the theory of nonlinear electric oscillations

SOURCE: Inzhenerno-fizicheskii zhurnal, v. 6, no. 7, 1963, 60-65

TOPIC TAGS: Manley and Rowe theorem, frequency oscillation, electromagnetic radiation, radiation temperature, reactive element, entropy flow, energy transfer

ABSTRACT: The article studies the possibility of the thermodynamic exploitation of the laws of conservation established by the Manley and Rowe theory of the frequency components of a power flow in an arbitrary reactive element of an electric circuit. It is based on the concept of energy coefficients developed by Smart. It discusses formulas evolved by Smart, Pease and Weiss. The steady process of entropy transfer from the source of frequency oscillations ω_{mn} (m and n being energy levels) to the source of frequency oscillations ω_{np}

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may be regarded as the result an adiabatic change in the frequency of electromagnetic radiation; e.g., the electromagnetic field may be considered to be enclosed in a cavity with a movable piston, and the change in its frequency to be due to the Doppler effect when the piston is moved. The radiation temperature in the adiabatic process varies in the same ratio as the frequency. This permits identification of the temperatures of the several branches of the electric circuit under study with their frequencies, assuming $T_{mn} \sim \omega_{mn}$. In generalizing Manley and Rowe's theorem to include the case of reactive elements with losses, one may proceed from the interpretation of the formulas

$$\sum_{m, n} m \frac{W_{mn}}{\omega_{mn}} = 0, \quad \sum_{m, n} n \frac{W_{mn}}{\omega_{mn}} = 0.$$

as a mathematical expression of the conditions of equality to zero of the work performed per unit of time by the side forces acting on the reactive element. These conditions, in the general case, are to be written as

$$\sum_{m, n} m \sum_{k} S'_{mnk} = 0, \quad \sum_{m, n} n \sum_{k} S'_{mnk} = 0.$$

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ACCESSION NR: AP3004294

where $S'_{mn} = \frac{W_{mn}}{u_{mn}} - \frac{P_{mn}}{|u_{mn}|}$ is that part of the total entropy flow

$\frac{W_{mn}}{u_{mn}}$, which is connected with the reverse processes of energy transfer. The other (negative) part of the flow compensates for the growth of entropy in the reactive element due to energy dissociation. This compensation is needed to maintain the steady work regime. Orig. has 16 numbered equations.

ASSOCIATION: none

SUBMITTED: 11Jul63

DATE ACQ: 08Aug63

ENCL: 00

SUB CODE: PH

NO REF SOV: 007

OTHER: 010

Card 3/3

L 07947-67 EWT(1) GD/JXT(CZ)

ACC NR: AT6028974

SOURCE CODE: UR/0000/66/000/000/0042/0047

AUTHORS: Gushchina, Z. M.; Kudryavtsov, V. D.; Trot'yakov, Yu. D.; Fabrikov, V. A.; Khomyakov, K. G.;

ORG: none

TITLE: Application of zero-diffusion method to the technology of preparing ultra-high-frequency ferrites 2/

SOURCE: Vsesoyuznoye soveshchaniye po ferritam. 4th, Minsk. Fizicheskiye i fizikokhimicheskiye svoystva ferritov (Physical and physicochemical properties of ferrites); doklady soveshchaniya. Minsk, Nauka i tekhnika, 1966, 42-47

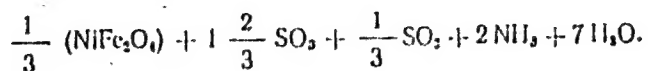
TOPIC TAGS: ultrahigh frequency, ferrite, solid solution, resonance line / P-28 ferrite

ABSTRACT: The ceramic method for preparing UHF ferrites is reviewed and found inadequate. A suggested new method consists of preparing micro-heterogeneous ferrite powders from solid solutions of isomorphic salts. For example, ferrite batches are obtained from solid solutions of schoenite-type double salts which, under heat treatment, yield

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The ferrites obtained by this zero-diffusion method are found to be dense and sufficiently homogeneous. Resonance absorption line curves plotted against density in the ferrite material show straight lines and, for cases where nondiffusive methods are used, the ferrite density is found to reach 4.86 g/cm³ with 24- to 30-oersted line widths. A detailed description is given for the preparation of a P-28, Mg-Mn ferrite, using the nondiffusive method. Orig. art. has: 4 figures, 1 formula, and 1 table.

SUB CODE: 11/ SUBM DATE: 22Dec65/ ORIG REF: 005

Card 2/2 *LC*

ACC NR: AT6028996

SOURCE CODE: UR/0000/66/000/000/0343/0349

AUTHORS: Gushchina, Z. M.; Stolyarov, A. K.; Fabrikov, V. A.;

ORG: none

TITLE: Ferrite materials for alternating field valves

SOURCE: Vsesoyuznoye soveshchaniye po ferritam. 4th, Minsk. Fizicheskiye i fizikokhimicheskiye svoystva ferritov (Physical and physicochemical properties of ferrites); doklady soveshchaniya. Minsk, Nauka i tekhnika, 1966, 343-349

TOPIC TAGS: ferrite, magnetic property, magnetic hysteresis, magnetization curve

ABSTRACT: Several ferrite materials for use in alternating field valve installations were developed. The choice of starting materials and experimental conditions was guided by the theoretical considerations of A. L. Mikaelyan (Teoriya i primeneniye ferritov na sverkhvysokikh chastotakh. Gosenergoizdat, 1963), and the experimental conditions are tabulated. The Curie temperature, the resonance line width, and the thermal dependence of magnetization of the synthesized ferrites were determined. The experimental results are shown graphically (see Fig. 1). It is concluded that ferrites of type P-28, P-43, and M-274 are suitable materials for use in alternating field

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ACC NR: AT6028996

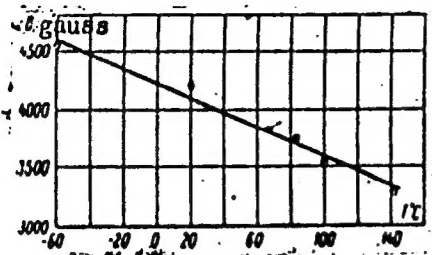


Fig. 1. Temperature dependence of magnetization of ferrite M-274

valve installations. Orig. art. has: 2 tables, 6 graphs, and 2 equations.

SUB CODE: 11/
20/ SUBM DATE: 22Dec65/ ORIG REF: 004/ OTH REF: 002

Card 2/2

BELOV, I.F.; VOLKOV, A.V.; ~~FABRIKOV, V.I.~~

Electric machine stopping after breakage or slippage of the sliyer
on roving machines. Izv.vyz.ucheb.zav.;tekh.tekst.prom. no.5:129-131
'60. (MIRA 13:11)

1. Ivanovskiy tekstil'nyy institut imeni M.V.Frunze.
(Spinning machinery)

BESEKERSKIY, Viktor Antonovich; VOSTOKOV, Sergey Borisovich; TSEYTLIN,
Yakov Moiseyevich; GORDEYEV, V.G., kand. tekhn. nauk, retsenzent;
FABRIKANT, Ye.A., nauchn. red.; LESKOVA, L.R., red.

[Electromechanical smoothing devices] Elektromekhanicheskie
sglazhivaiushchie ustroistva. Leningrad, "Sudostroenie,"
1964. 145 p. (MIRA 17:5)

YAROSLAV, YE. A.

YAROSLAV, YE. A.: "A study of the transformations of sodium phosphotungstate under the influence of caustic soda". Moscow, 1955. Moscow State University N. V. Lomonosov, Chair of Inorganic Chemistry. (Dissertation for the Degree of Candidate of CHEMICAL Sciences)

SO: Knizhnaya Letopis' No. 51, 10 December 1955

FABRIKOVA, E. A.

27
 Transformations of sodium phosphotungstate under the
 influence of sodium hydroxide. ²⁷ N. I. Solov'eva and E. A.
 Fabrikova. *Proc. Acad. Sci. U.S.S.R., Chem. Sect.* 108,
 Nos. 1-6, 27-30 (1966) (English translation); *Doklady
 Akad. Nauk S.S.S.R.* 108, 81-7 (1966). --Addn. of small
 amts. of NaOH to a Na phosphotungstate soln. is said to
 cause partial decompn. of the satd. salt with the formation of
 phospho-8-tungstate and the normal sodium tungstate.
 These last two compds then react to form a double or com-
 plex salt: $\text{Na}_2(\text{PW}_{12}\text{O}_{42}) \cdot 14\text{H}_2\text{O} + 6\text{NaOH} + 4\text{H}_2\text{O} =$
 $\text{Na}_2(\text{PW}_{12}\text{O}_{42}) \cdot 3\text{Na}_2\text{WO}_4 \cdot 21\text{H}_2\text{O}$. It is suggested that the
 double salt may be an intermediate product in the formation
 of the satd. salt. Otto H. Johnson

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for aox

Fabrikova, Ye. A.

USSR/Chemistry - Conversion processes

Card 1/2 Pub. 22 - 22/43

Authors : Spitsyn, Vikt. I., Memb. Corresp., AN SSSR, and Fabrikova, Ye. A.

Title : Conversions of sodium phosphotungstate during reaction with sodium hydroxide

Periodical : Dok. AN SSSR 106-1, 84-87, Jan 1, 1956

Abstract : The reaction between sodium hydroxide and ordinary tri-substituted sodium phosphotungstate was investigated. It was found that the addition of small amounts of sodium hydroxide to the sodium phosphotungstate solution results in partial decomposition of the saturated salt and formation of phospho-9-tungstate and normal sodium tungstate. These tungstates react between each other forming a new chemical compound of the binary or complex salt type.

Institution : Moscow State University im. M. V. Lomonosov

Submitted : June 29, 1955

Card 2/2 Pub. 22 - 22/43

Periodical : Dok. AN SSSR 106/1, 84-87, Jan 1, 1956

Abstract : The possibility that the binary salt may be an intermediate product formed during the synthesis of the saturated salt from the phosphate and sodium tungstate, is discussed. Five references: 2 USSR, 2 Germ. and 1 USA (1908-1952). Tables; graphs.

VERSHKOVSKAYA, O.V.; FABRIKOVA, Ye.A.

Gallium in sphalerites. *Geokhimiia* no.4:320-324 '57. (MIRA 12:3)

1. Institute of Mineralogy, Geochemistry and Crystallochemistry of Rare
Elements, Academy of Sciences, U.S.S.R., Moscow.
(Kurama Range--Sphalerite) (Gallium)

Fabrikova Ye. A.

AUTHORS: Saltykova, V. S., Fabrikova, Ye. A. 75-1-9/26

TITLE: The Determination of Gallium in Minerals by the Rhodamine Photometric Method (Opredeleniye galliya v mineralakh pri pomoshchi rodaminovogo fotometricheskogo metoda)

PERIODICAL: Zhurnal Analiticheskoy Khimii, 1958, Vol 15, Nr 1, pp. 63-65 (USSR)

ABSTRACT: The main deficiency of the reactions used for the determination of small quantities of gallium lies in their low specificity. Gallium must therefore be separated from hydrochloric solutions by repeated extraction of its chloride with ether or amyl-acetate. This circumstance renders the work with series analyses extremely difficult. The authors perfected a quantitative photometric method of the determination of gallium with rhodamine B according to Onishi and Sandell (reference 3) in a manner that gallium is not separated from the accompanying elements. Gallium can be determined in minerals independent of the content of iron and aluminum. With gallium ions in 6n-hydrochloric solutions rhodamine B forms a colored chlorine gallate of rhodamine B which can be extracted with benzene. The presence of more than 0,5γ

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The Determination of Gallium in Minerals by the Rhodamine
Photometric Method

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gallium in the solution is recognized by a red-violet coloring of the organic layer, a gallium content lying below 0,5%, an orange-yellow fluorescence. The disturbing influence of Au (III), Fe(III), Sb(V) and Tl(III) is removed by the addition of $TiCl_3$ to the initial solution. Other foreign ions, with the exception of the ion NO_3^+ (probably misprint, should read NO_2^- ; abstractor's remark) do not disturb the proof and the determination of gallium. The low value of the extraction coefficient for rhodamine B - chlorine gallate in benzene and its dependence on the composition and the concentration of the admixtures in the solution prevents the possibility of a quantitative determination of gallium according to Onishi's method, but without a previous separation of gallium. The authors found that a mixture of ether and benzene exercises a much more intense extracting effect upon the rhodamine-complex of gallium from hydrochloric solutions than the individual components of this mixture. When plotting the percentage portion of the precipitate extracted against the composition of the mixture of ether and benzene a curve is obtained which shows a sharp maximum at a volume ratio ether: benzene = 1 : 3. This maximum means a 100% extraction of the

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gallium-rhodamine complex into the organic phase and is practically independent of the content of admixtures. The use of this mixture of benzene and ether for the extraction of the gallium-rhodanide complex permits a visual colorimetric determination of gallium. At a gallium content of the sample from 0,2γ to 1γ the accuracy amounts to 0,1γ, at a gallium content from 1γ to 2γ - 0,3γ, at a gallium content from 2γ to 5γ - 0,5γ and at a gallium content of from 5γ to 10γ - 1γ. The relative error of this determination on the average amounts to 10-15%. The minimum quantity of gallium which can be proved on the basis of the coloring of the benzene-ether layer amounts to 0,1γ per ml. This method was applied to more than 200 samples of gallium-containing minerals: bauxites, natrolites, nephelines, sphalerites and others. The minimum gallium content which can be determined with the rhodamine B - method without separating gallium from the accompanying elements for sulfidic ores, natrolites and nephelines amounts to 0,0001%, for bauxites and some silicates to 0,001%. The results obtained were compared with the results obtained by Lukin's method (ref. 5) and also with

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those obtained by the rhodamine-method with a previous separation of gallium from the accompanying elements. It was found that the deviations of the results do not exceed the error limit of the method (10-15%). There are 1 figure, 1 table, and 8 references, 4 of which are Slavic.

ASSOCIATION: Institute for Mineralogy, Geochemistry and Crystallochemistry of Rare Elements AS USSR, Moscow (Institut mineralogii, geokhimii i kristallokhimii redkikh elementov AN SSSR, Moskva)

SUBMITTED: January 5, 1957

AVAILABLE: Library of Congress

1. Gallium - Determination
2. Rhodamine - Applications
3. Photometry - Applications

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5(2)

AUTHOR: Fabrikova, Ye. A.

SOV/75-14-1-7/32

TITLE: Increasing Sensitivity and Accuracy in the Determination of Cesium in Minerals by the Aid of Flame Photometry
(Povysheniye chuvstvitel'nosti i tochnosti opredeleniya tseziya v mineralakh metodom fotometrii plameni)

PERIODICAL: Zhurnal analiticheskoy khimii, 1959, Vol 14, Nr 1, pp 41-44
(USSR)

ABSTRACT: The author worked out a high-sensitive flame photometric determination method, that permits to determine one-hundredth and one-thousandth percentages of cesium in natural materials with an accuracy of 5-10%. The determination limit is at 0.2 μ /ml. The increased sensitivity of this method was attained by the aid of the increase effect of the cesium line radiation intensity at $\lambda = 8521 \text{ \AA}$ in the presence of large amounts of potassium. The influence of the other alkali metals (K, Na, Li, Rb) upon the cesium line intensity at 8521 \AA was investigated quantitatively. A monochromator UM-2 served as analyzer of the spectral lines. The radiation intensity was measured over a photo-multiplier FEU-22 by the aid of a reflecting galvanometer of the M-21 type. It was found that the presence of other alkali metals effects a noticeable intensity increase of the

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cesium line, if the concentration of the admixtures is higher than that of cesium. The greatest effect of that type is shown by potassium, whose influence with increasing concentration tends towards a saturation value. Potassium contents, corresponding to this saturation value of the concentration, effected a 25fold increase of the cesium line intensity. The connection between line intensity and cesium concentration in the solution in the presence of large quantities of potassium for 0.2 - 100 μ Cs/ml is virtually a straight line. The same connection shows a curve, if taken with pure cesium salt. The essence of the method elaborated for the determination of cesium consists in that a large quantity of potassium sulfate (5570 μ /ml) is added to the sample solution and to the standard solution prior to flame photometrical measuring. Potassium content in the initial material is to be considered with an accuracy of 50 μ /ml. The chemical preparation of the samples before carrying out the determination took place according to data from publications (Ref 2). The relative error of the α s determination amounts to ± 4.45 when determining one-hundredth percentages and

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Increasing Sensitivity and Accuracy in the Determination of Cesium in Minerals by the Aid of Flame Photometry SO7/75-14-1-7/32

$\pm 9.7\%$ on one-thousandth percentages. Reproducibility is satisfactory. The procedure of the analysis of minerals from the preparation to the flame photometrical determination of cesium is very accurately described. The results of some cesium determinations in granites according to this method are also specified. The formula for the calculation of the cesium content on the basis of the results is given. There are 2 figures, 2 tables, and 2 references.

ASSOCIATION: Institut mineralogii, geokhimii i kristallokhimii redkikh elementov AN SSSR, Moskva (Institute of Mineralogy, Geochemistry and Crystal-Chemistry of Rare Elements, Academy of Sciences, USSR, Moscow)

SUBMITTED: November 28, 1957

Card 3/3

FABRIKOVA, Ye.A.

Flame-photometric determination of small amounts of rubidium in
silicates. Zhur.anal.khim. 15 no.4:427-430 J1-Ag '60.
(MIRA 13:9)

1. Institute of Mineralogy, Geochemistry and Crystallochemistry
of Rare Elements, Academy of Sciences, U.S.S.R., Moscow.
(Rubidium--Analysis) (Silicates)

FABRIKOVA, Ye.A.

Flame photometric determination of alkali metals in silicate
rocks and minerals. Trudy Inst. min., geokhim. i kristallokhim.
red. elem. no.6:118-128 '61. (MIRA 15:3)
(Photometry) (Alkali metals) (Silicates)

88579

S/075/61/016/001/003/019
B013/B055

5.5230

AUTHOR: Fabrikova, Ye. A.

TITLE: Flame-photometric Determination of Small Amounts of Cesium in
Natural Samples Enriched in Potassium

PERIODICAL: Zhurnal analiticheskoy khimii, 1961, Vol. 16, No. 1, pp. 22-24

TEXT: The present work studies the possibility of separating microquantities of cesium from large amounts of potassium by coprecipitation with ammonium silicomolybdate. The author used the data given in Refs. 10 and 11 as a basis for working out a procedure for this coprecipitation. These two references state that the solubility of cesium silicomolybdate decreases with an increase in acidity of the solution, while excess ammonium chloride markedly decreases the solubility of ammonium silicomolybdate. By alternately varying these factors it was found that cesium is completely coprecipitated with the ammonium silicomolybdate precipitate from a solution containing 0.1 g/ml H_2SO_4 , 0.2 g/ml NH_4Cl , and 1.4 g/ml $2Na_2O \cdot SiO_2 \cdot 12MoO_3$ (Table 1). Tests of the degree of coprecipitation of cesium with

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Flame-photometric Determination of Small
Amounts of Cesium in Natural Samples En-
riched in Potassium

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ammonium silicomolybdate in the presence of potassium showed that potassium does not interfere. The major portion of potassium (99.8%) remains in solution. The results obtained in four check determinations of cesium in different granite samples appear in Table 2. From this it may be seen that the losses do not exceed 16.6%. The maximum sensitivity of the flame-photometric determination of Cs in the presence of 2500 γ /ml potassium agrees with the data given in Ref. 7 (0.1 - 0.2 γ /ml). The chemical preparation of the sample is described. The flame-photometric measuring technique has been described in Ref. 4. There are 2 tables and 11 references: 4 Soviet, 2 British, 1 German, 2 Japanese, 1 US, and 2 Austrian. X

ASSOCIATION: Institut mineralogii, geokhimii i kristallokhimii redkikh elementov AN SSSR, Moskva (Institute of Mineralogy, Geochemistry, and Crystallochemistry of Rare Elements of the Academy of Sciences USSR, Moscow)

SUBMITTED: January 14, 1960

Card 2/2

KOGAN, B.I.; KAL'ZHANOVA, Ye.G.; SAL'TINA, L.V.; SOLODOV, N.A.;
DMITRIYEVA, O.P.; Primali uchastiye: UKHANOVA, N.I.;
PERVUKHINA, A.Ye.; KAZANTSEVA, V.G.; ULANOVSKAYA, V.D.;
VLASOV, K.A., glav. red.; LIZUNOV, N.V., otv. red.;
PYATENKO, Yu.A., otv. red.; SALTYKOVA, V.S., otv. red.;
SLEPNEV, Yu.S., otv. red.; FABRIKOVA, Ye.A., otv. red.
PODOSEK, V.A., red. izd-va; GOLUB', S.I., tekhn. red.

[Rare alkali metals (lithium, rubidium, and cesium); a bibliography on their geochemistry, mineralogy, crystal chemistry, geology, the analytic methods of their determination, and their economics] Redkie shchelochnye metally (litii, rubidii i tseziu); bibliografiia po geokhimii, mineralogii, kristalloghimi, geologii, analiticheskim metodam opredeleniia i ekonomike. Sost. B.I.Kogan i dr. Moskva, Izd-vo Akad. nauk SSSR, 1962. 327 p. (MIRA 16:2)

1. Akademiya nauk SSSR. Institut mineralogii, geokhimi i kristalloghimi redkikh elementov. 2. Chlen-korrespondent Akademii nauk SSSR (for Vlasov).

(Bibliography--Alkali metals)

FABRIKOVA, Ye.A.; ISAYEVA, A.G.

Flame photometric determination of barium in natural
objects. Zhur. anal. khim. 18 no.3:329-332 M'63.

(MIRA 17:5)

1. Institut mineralogi, geokhimi i kristalloghimi;
redkikh elementov AN SSSR, Moskva.

FABRIKOVA, Ye.A.; ISAYEVA, A.G.

Joint flame photometric determination of strontium, calcium,
and barium in natural samples. Trudy IMGRE no.18:175-185 '63.
(MIRA 16:12)

FABRIS, Karol, mgr., inż.

The tasks of the technical management in the field of production concentration. Przegl gorn 17 no.9:442-443 S '61.

1. Wiceminister Gornictwa i Energetyki.

FABRIS, Karol, mgr. inz.

Problems of electrification and demethanization of gas mines
in the U. S. S. R. Wlad gorn 13 no.1:7-12 Ja '62.

1. Wloceminister Gorniotwa i Energetyki, Warszawa.

FABRIS, Karol, mgr inz.

Problems concerning the reconstruction of coal mines. Przegl
techn 85 no.48:9 29 N '64

1. Vice-Minister of Mining and Power Engineering, Warsaw.

FABRISTOV, A. S.

"Marker Sowing of Plowed and Industrial Crops in Wide Rows," Sov. agron.,
No.2, 1952

FABRISTOV, N., agronom.

Using molybdenum for fertilizer. Nauka i pered. op. v sel'khoz.
8 no.4:30 Ap '58. (MIRA 11:5)

1. Raysemkhoz imeni Timiryazeva, Krasno-Bakovskiy rayon, Gor'kovskoy
oblasti.

(Plants, Effect of molybdenum on)

SELYAKOV, L.M.; FABRISTOV, Yu.V., red.

[Aperture distortions and their correction; textbook for a course on amplifiers, indicator systems, and television] Aperturnye iska-zheniia i ikh korrektsiia; posobie dlia kursa usilitelei, indikator-nykh ustroistv i televideniia. Taganrog, Taganrogskii radiotekhnicheskii in-t, 1960. 74 p. (MIRA 14:10)
(Television—Handbooks, manuals, etc.)

PISICA, Const. D.; FABRITIUS, Klaus

Proctotyrpidae (Hym.) of Rumania. Studii biol agr Iasi
13 no.1:79-84 '62.

L 18114-66 EWI(d) IJP(c)

ACC NR: AP6010397

SOURCE CODE: CZ/0045/65/000/003/0177/0185

AUTHOR: Fabritsi, Inrich--Fabrici, I. (Bratislava) ²⁵₈

ORG: Department of Mathematics, Chemical Faculty, Slovak Institute of Technology,
Bratislava (Katedra matematiky, Chemická fakulta, Slovenská vysoká škola technická)

TITLE: Invertible elements of a semigroup and their relation to increasing elements
of a semigroup ^{16, 04, 55}

SOURCE: Matematicko-fyzikálny časopis, no. 3, 1965, 177-185

TOPIC TAGS: group theory, matrix element, mathematics

ABSTRACT: The article has the purpose of characterizing in a certain manner the structure of semigroups which contain inversible elements and also the structure of semigroups which contain increasing elements. [JPRS]

SUB CODE: 12 / SUBM DATE: 21Nov63 / ORIG REF: 002 / OTH REF: 001

SOV REF: 002

Card 1/1
LC

FABRITSIUS, I. V.

"Archeological Map of Black Sea Coastal Area of the Ukrainian SSR," Kiev
Izd-vo Ak. nauk UkrSSR, No.1, 1951

FABRITSIUS, I. V.

"Geographical Distribution of Scythian Tribes," Vest. drev. ist., No.2, 1952

11A 30

TEST AND PROPERTIES INDEX

hygroscopicity of materials of the rubber industry I and II. H. Falshteyn and H. Sastenkher. *J. Rubber Ind.* (U. S. S. R.) 5, No. 2 3, 28 30, 6, No. 7, 13 17 (1931), *Chem. Zvesti.* 1932, 1, 2102. Hygroscopicity detns. are reported on lampblack, ochre, SnS_2 , lithopone, MgO , MgCO_3 , S flowers, PbO , graphite, kaolin, barytes, talc, chalk. The last 7 of these and Zn white are non-hygroscopic. When MgCO_3 contg. 4.20% H_2O stood over water it took up 11.4% more H_2O , but upon drying gave up again only 13.87%. Expts. are reported on the desiccating action of the milling process on various materials used with rubber. Milling produces very pronounced drying. Except when very hygroscopic materials are used, the H_2O content of the mixt. is reduced to less than 0.30% by very brief milling. M. G. Moore

ASAC 55.4 METALLURGICAL LITERATURE CLASSIFICATION

1A

28

Barytes. H. FARRINGTON AND R. GUTINA. *J. Rubber Ind. U.S.S.R.* 10, 106-207 (1952). A study of barytes as a rubber filler. Natural ground barytes produced practically the same results as pptd. BaSO_4 . The use of a specially ground natural barytes is recommended for the U.S.S.R. rubber industry as an economical possibility. Chalk mist is recommended for automobile tire tread. (Trans. Science)

ASH SLA METALLURGICAL LITERATURE CLASSIFICATION

Chalk as an ingredient in rubber mixtures. B. Falsztayev and R. Gutina. *Rubber Ind.* (U. S. S. R.), 9, 19-27 (1933).—A comparison of the tensile strength, hardness, elasticity and resistance to abrasion of rubber mixts. contg. chalk of different grades and barytes. The data are recorded as tables and curves. It is believed that chalk is a good substitute for barytes. James Sorrel

PROCESS AND PROPERTY INDEX												TOP AND SIDE GROUPS											
<p><i>B</i></p> <p style="text-align: right;"><i>B-H-9</i></p> <p>Description of rubber containing different components: R. KISHIMOTO and H. SHIRAHARA, J. Polym. Sci., Japan, 1963, 20, 200-201. — Describing present methods for determining the rate of swelling based on (a) swelling the rubber in small vessels and (b) the plasticity. Using Method (b), experiments are recorded on mixtures containing 18% styrene, polystyrene of various types and also containing combinations of mercaptobenzothiazole with diphenylguanidine, tetramethylthiourea disulfide, and Zn dimethyldithiocarbamate (A). PBO is an energetic activator for the last 2 combinations, but reduces the activity of A alone.</p> <p style="text-align: right;">D. F. T.</p>																							
AIR-SEA METALLURGICAL LITERATURE CLASSIFICATION																							
FORM SYMBOLS												FORM SYMBOLS											
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Ebonite for the parts of a magneto H. Palutskiy, I. Felkov and A. Shcheglov. *J. Rubber Ind.* (U. S. S. R.) 11, 221-22 (1934).—A description of experiments on the replacement of shellac by ebonite. Ebonite is used in parts of the magneto: rotor and distributor cap. The original formula was: smoked sheet 32, S 17, MgO 6, shellac 7.5 and talc 37.5.

37.5. The formulas recommended are: (1) for natural rubber: smoked sheet 32, S 17, MgO 6, talc 37.5 and pitch residue 7.5; (2) for synthetic rubber: synthetic rubber (cured and vulcanized for 5 hrs.) 32, S 17, MgO 6, talc 37.5 and pitch residue 7.5. The tensile strengths (in kg. per sq. cm.) were 380, 425 and 300, resp. The heat resistances (in degree Centigrade) were 47.6, 59.6 and 32.5, resp. A. Pestoff

ASB 16A METALLURGICAL LITERATURE CLASSIFICATION

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Oil-resistant rubber mixtures. V. Kaluzhskov and I. Skube. *J. Rubber Ind.* (U.S.S.R.) 11, 332 (1934).

A review of the question of the benefit of bone glue as a specific ingredient to impart oil resistance to a rubber mixt. The expt. of the authors did not prove this. A. P.

ASD-SLA METALLURGICAL LITERATURE CLASSIFICATION

in
Cements for joining leather to rubber. H. Fabritzev,
G. Buiko and E. Pakhomova. *Kasherskaya Zhurnala*
/rom. 13, 522-3(1934). The following types of rubber
cements were investigated: (1) self-vulcanizing cements,
prepd. from rubber mixts. with ultra-accelerators such as
"Zinate" and "Pipad"; (2) "Thermoprene" cements,
prepd. from rubber and β -HOC₁₁H₂₁ (low-temp. Thermo
prene prepd. at 130° and high-temp. prepd. at 180°);
(3) gutta-percha cements, prepd. by dissolving gutta-
percha in various solvents; and (4) combination cements,
prepd. by the simultaneous application of 2 types of ce-
ments, whereby each component is used for cementing
different parts. All cements were prepd. with naphtha.
and were tested for adhesion, resistance to heat, strength
of the cemented pieces while hot, water resistance and fat
resistance. A. A. Buchting

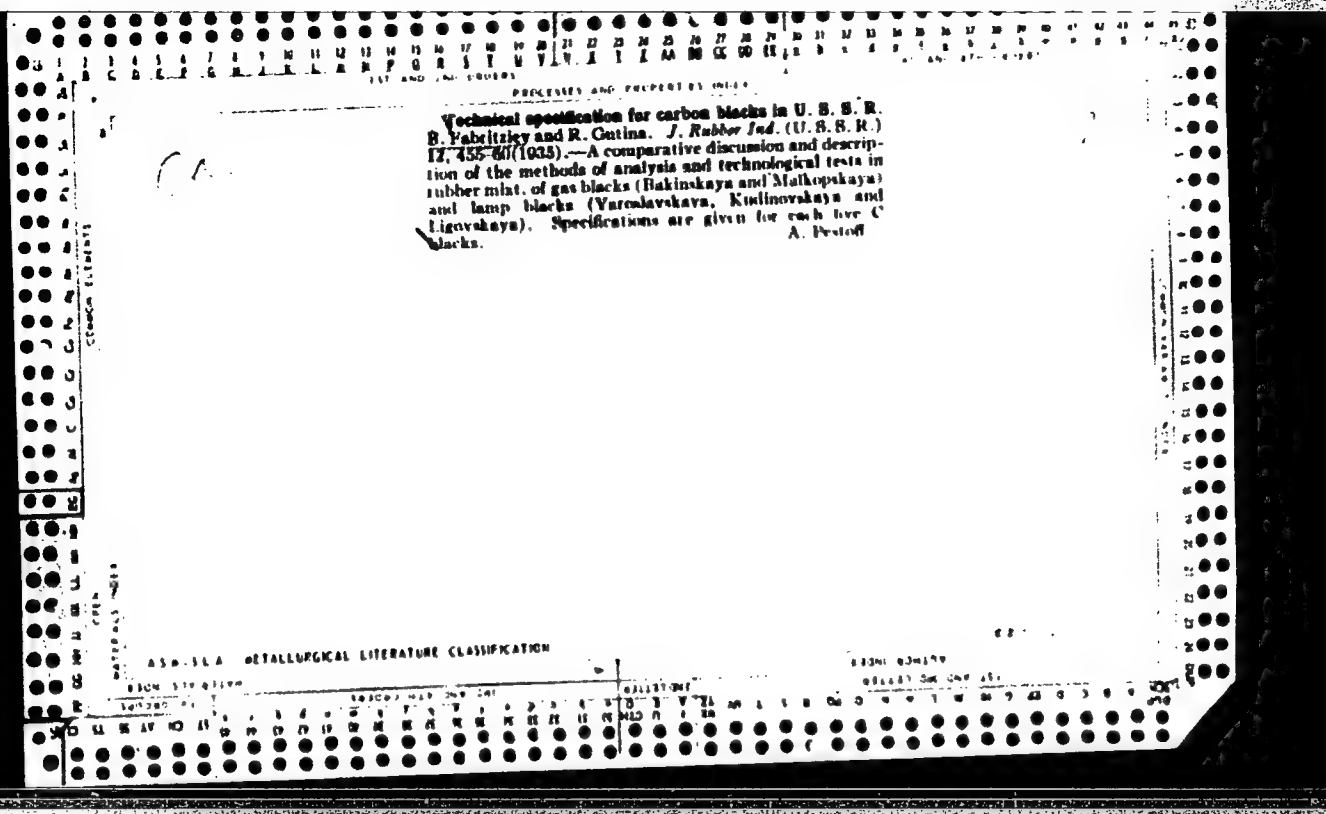
ASB-5LA METALLURGICAL LITERATURE CLASSIFICATION

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Control of the quality of powdered rubber fillers. B. Fabrikalev and Yu. Margolina. *J. Rubber Ind.* (U. S. S. R.) 12, 440-55(1935). - A crit. discussion of the detn. of the degree of dispersion by 3 methods: sieve, sedimentation and microscopic. The last is the best. A. P.

ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION
FROM: 519-817A
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CA

1ST AND 2ND DEGREES

PROCESSES AND PROPERTIES INDEX

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The newest principles of formulating rubber mixtures
 R. P. Feltz, Jr. *J. Rubber Ind.* (U. S. S. R.) 12, 767-62
 (1965). The free S in rubber is oxidized by the air to
 H₂SO₄ or H₂SO₃. These deteriorate the rubber; therefore
 formulas should contain a min. of free S. Vulkanization
 in the future will be with polysulfide accelerators like
 tetramethylthiuram disulfide (T), e. g., 3% in the presence
 of a very small proportion of S, or combinations of S 0.1-
 0.5% and Se 3.0%. The effects of various ingredients,
 including ZnO, magnesia alba, ground asbestos, etc., in a
 formula with 3% tetramethylthiuram disulfide and no S,
 on the mech. properties of rubber are shown. A. Pestoff

ASM-S&A METALLURGICAL LITERATURE CLASSIFICATION

The action of the ingredients dispersed to different degrees on the mechanical qualities of synthetic rubber. B. Pavlovskiy and R. Gutina. *J. Rubber Ind.* (U. S. S. R.), 12, No. 7 (1935). —Gluukhovskiy, kaolin, Shetehiminskii CaCO_3 and Kimintskii diatomite were tested. The rubber contg. the most highly dispersed ingredient had the highest tensile strength, modulus of elasticity and resistance to aging. The best dispersion was obtained with kaolin (diam. of particles 2.35 μ), next with diatomite (2.94 μ) and poorest with CaCO_3 (3.10 μ). A. Pestoff.

The use of synthetic rubber in molded surgical goods. N. Kamotzhil. *J. Rubber Ind.* (U. S. S. R.), 12, 834-5 (1935).—Refined synthetic rubber with a plasticity of 60-65 was used in proportions of 50-75%. The goods had a disagreeable odor. The goods were greased with a neutral oil, of vegetable soap and were cleaned by boiling in a 15-20% rubber soln. A. Pestoff

ASME-STEEL METALLURGICAL LITERATURE CLASSIFICATION

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Selenium in rubber mixtures containing synthetic and natural rubbers. H. Faltushev, G. Bulko and I. Skula. *J. Rubber Ind.* (U.S.S.R.) 12, 1101-5 (1965); 1966, No. 1, 57-63. Tables show the effect of Se on the mech. qualities of rubber mixes. of synthetic rubber alone and with different proportions of natural rubber. Seventeen references. A. Pestoff

ASB.SLA METALLURGICAL LITERATURE CLASSIFICATION

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

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100 AND 100 INDEX
PROCESSES AND PROPERTIES INDEX

The tackiness of synthetic sodium butadiene rubber
R. Fajlitzky and G. Bulko. *J. Rubber Ind. (U.S.S.R.)*
1936, 141-42. -Ten % of *p*-nitrodimethylamine (I) was
added to Na butadiene rubber and the mixt. was subjected
to a thermal treatment of 2-3 hrs. at 100°. Addn. of 3
parts by wt. of paraffin oil before thermal treatment de-
creased the treatment to 1 hr. Vulcanizates with treated
synthetic rubber had less elasticity than old those with
untreated rubber. The disadvantages of using I are its
toxicity, staining and accelerating action on vulcanization.
This thermal treatment of synthetic rubber with I is a
process of depolymerization, which produces rubber with
greater tackiness and plasticity. A. Pestoff

ASB-11A METALLURGICAL LITERATURE CLASSIFICATION

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Synthetic rubber from butadiene. B. V. Fabritsiev. *Novosti Tekhniki* 1936, No. 3, 35 G.—Thermal treatment of a mixt. of Na butadiene and 10% of p-nitrosodimethyl-aniline (I) at 100° for 1 hr. increases the adhesiveness of the synthetic rubber by 25-135%, but the toxic nature of I prevents its use. The Yaroslavl rubber plant uses the polymerised-hydrocarbon spent liquor of the plant, which increases the adhesiveness of synthetic rubber almost twice after treatment at a temp. 100° for 3 hrs. under a pressure of 600 mm. of Hg. A. A. Polgorny

ASME-SLA METALLURGICAL LITERATURE CLASSIFICATION

13001 170 02100

140380 44

CH 30

The use of cement made of 100% synthetic rubber for
impregnating cloth. R. V. Fainitslev, G. Bulko and E.
Pakhomova. *J. Rubber Ind. (U. S. S. R.)* 1936, No. 8 9,
806 92.—The general technic is described. A. P.

ASB 55.4 METALLURGICAL LITERATURE CLASSIFICATION

Synthetic latex. B. V. Fabritsiev. *Novosti Tekhniki* 1958, No. 9, 34.—Butadiene was introduced with dist. water into an autoclave contg. emulsifiers and catalysts, the mixt. was mechanically stirred and the temp. gradually raised to 40-40°, and the butadiene allowed to polymerize for several days. This yielded a synthetic latex. The gel-like latex obtained was dild. with water to a 15% soln. and coagulated with AcOH. A. A. Podgorniy

ASNT-51A METALLURGICAL LITERATURE CLASSIFICATION

117 AND 120 TABLES

POLYMER AND PROPERTIES INDEX

Co

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Study of accelerators for the hot vulcanization of foam-
less rubber goods. B. V. Fabritsiev, M. Vishnevskaya
and M. Serikov. *Rubber and Rubber* (U. S. S. R.)
1937, No. 2, 57-60.—Zn butylxanthate (I), Zn isopropyl-
xanthate, K butylxanthate, Na isopropylxanthate,
piperidinium pentamethylenedithiocarbamate (II), Piprol
M-I (III), (condensation product of II with HCHO and a
neutral emulsifying agent) and dithiocarbamates K-43
(IV) and K-54 (the exact compns. not given) were tested.
Films were prepd. from an 8% solu. of rubber in C₆H₆, and
vulcanized in water at 183°. The accelerators were intro-
duced either into the rubber, in glue, or in water. The
best results were obtained with I, III and IV. A. P.

ASSOCIATED METALLURGICAL LITERATURE CLASSIFICATION

117 AND 120 TABLES

117 AND 120 TABLES

		PROCESSING AND PROPERTIES INDEX																										
		1ST AND 2ND YEARS													3RD AND 4TH YEARS													
CROSS-SECTIONS		<div style="text-align: right;">30</div>																										
OPEN		Manufacture of nipples and pacifiers from latex by the hot vulcanization process. H. V. Fabritsiev and A. Komarov. <i>Gumichom and Rubber</i> (U. S. S. R.) 1937, No. 4, 94-9.—Descriptive. A. Pestoff																										
MATERIALS INDEX		ADD-SLA METALLURGICAL LITERATURE CLASSIFICATION																										
LACROSS #1		100000 MAY ONE ONE													BELLSTONE													
LACROSS #2		100000 MAY ONE ONE													BELLSTONE													

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Reclaiming of rubber from old galoshes and rubbers made of mixtures of synthetic rubber and natural rubber B. Falshteyn and D. Korshunov. *Gummi ika i Rukher* (U. S. S. R.) 1937, No. 7-8, to 2. Old rubbers and galoshes (50% synthetic rubber), reclaimed by the hot H_2SO_4 process gave after vulcanization (reclaimed rubber 100, S 3) a tensile strength of 10.4 kg. per sq. cm.

A. P. Stoll

ASB-11.4 METALLURGICAL LITERATURE CLASSIFICATION

CIA-RDP86-00513R000412320

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ca

PROCESSING AND PROPERTIES HELPS

1ST AND 2ND EDITIONS

The need of the rubber industry for whitening prepared by the flotation process. H. V. Faltusiev. *Kumkhal* Resins 1941, No. 6, 12-13; *Chem. Zentr.* 1942, II, 2431. - Whittings suitable for the rubber industry and peepal. The ordinary chlorination process and by the flotation process are compared. Since the flotation process yields a decidedly better product, the construction of a large plant for manufacturing whitening by the flotation process is recommended. (C. C. Davis)

ASD-51A DETAILING LITERATURE CLASSIFICATION

SPONSOR: STODOLSKY

EDITION: 1941

UNITED STATES GOVERNMENT PRINTING OFFICE

WASHINGTON, D. C. 20540

1941 O-700-10

UNITED STATES GOVERNMENT PRINTING OFFICE

WASHINGTON, D. C. 20540

30

Preparation of mixtures from sodium butadiene rubber
H. P. Fabritsiev and A. Komarova. *Eckova* From
1946. No. 5/6, 23 R. - Particularly good mech. properties
were obtained with rubbers and stearic acid. Marul
increases considerably the mech. strength of vulcanizates
without increasing their elasticity. W. R. Henn

ASB-55A METALLURGICAL LITERATURE CLASSIFICATION

SMIRNOV, B.M.; FADDEYEV, B.V.; KRYZHOV, L.V.

Magnetite ores in Kustanay Province. Gor.zhur. no.3:78-79 Mr '60.
(MIRA 14:5)

1. Ural'skiy filial AN SSSR
(Kustanay Province—Magnetite)

FADDEYEV, B.V., kand.tekhn.nauk.; KAGASOVA, S.M., inzh.

Strong conveyor belts for open-pit mining. Gor.zhur. no.2:42-45
F '61. (MIRA 14:4)

1. Gorno-geologicheskii institut Ural'skogo filiala AN SSSR (for
Faddeyev). 2. Sverdlovskiy zavod rezinovykh tekhnicheskikh izdeliy
(for Kagasova). (Conveying machinery) (Strip mining)

FADDEYEV, B.V., kand.tekhn.nauk

Mechanization of auxiliary operations in conveying. Mekh. i avtom.
proizv. 15 no. 5:28-30 My '61. (MIRA 14:5)
(Conveying machinery—Technological innovations)

FABRITSKIY, Kh.B.; SEMENOV, A.I., redaktor; VOROB'YEVA, N.N., redaktor;
KARASIK, N.P., tekhnicheskii redaktor

[Standard work norms for the saw milling and woodworking industry]
Tekhnicheskoe normirovanie v lesopil'no-derevoobrabatывaushchem
proizvodstve. Moskva, Goslesbunizdat, 1954. (MLRA 7:10)
(Woodworking industries) (Job analysis)

FABRITSKIY, Khanon Borisovich; SEMENOV, A.I., redaktor; BKL'CHENKO, N.I.,
redaktor; BKL'CHENKO, N.I., redaktor

APPROVED FOR RELEASE: Thursday, July 27, 2000

CIA-RDP86-00513R00041232

[Establishing production norms for sawmills and woodworking industries]
Tekhnicheskoe normirovanie v lesopil'no-derevoobrabatывaushchem
proizvodstve. Izd. 2-oe, perer. Moskva, Goslesbunizdat, 1956. 265 p.
(Woodworking industries) (Sawmills) (MLRA 9:5)

FABRITSKIY, Khanon Borisovich; LYUBMAN, Semen Markovich; SEMENOV, A.I.,
red.; MEL'NIKOVA, M.S., red. izd-va; LOBANKOVA, R.Ye., tekhn. red.

[Reference book for establishing norms in the manufacture of
furniture] Spravochnik normirovshchika mebel'nogo proizvodstva.
Moskva, Goslesbumizdat, 1961. 279 p. (MIRA 14:7)
(Furniture industry) (Production standards)

FABRITSKIY, Khanan Borisovich; LYUBMAN, Semen Markovich; SEMENOV,
A.I., red.; BOYKO, L.I., red. izd-va; GRECHISHCHEVA, V.I.,
tekhn. red.

[Manual for the standards setter in furniture manufacture]
Spravochnik normirovshchika mebel'nogo proizvodstva. Izd. 2.,
perer. Moskva, Goslesbumizdat, 1963. 322 p.

(MIRA 17:2)

FABRITSKIY, Zh.B., kand.ekonom.nauk

A useful textbook on the establishment of work norms. Ser. prom. 14
no.2:30-32 P 166. (MIRA 18:6)

FABR. 1961, in. b., kand. ekonom. nauk

Practices in paying wages based on finished products in the
furniture industry. Der. prom. 14 no. 6:17-19 Je '65. (MIRA 18:7)

FABRITSY, A.

"Transformation of di-tertiary glycols of the acetylene series under the influence of mercury salts." Min Higher Education USSR. Leningrad Prder of Labor Red Banner Technological Inst imeni Leningrad Soviet. Chair of Organic Chemistry. Leningrad, 1956. (Dissertation for the Degree of Candidate in Chemical Sciences).

SO: Knizhnaya letopis', No. 16, 1956

Fabritsy, A.

Influence of the structure of the acetylenic α -glycols on their transformations. B. D. Ventshamova, L. A. Pavlova, and A. Fabritsy. *Vestnik Leningradskogo Universiteta*, No. 16, Ser. Khim. Nauki, No. 3, 117-125, 1968. The transformations of acetylenic α -glycols induced by H_2SO_4 are reviewed. Certain basic products of these reactions give colored salts with acids, and colored complexes with some metal chlorides of the type $PFeCl_4$, and possess a hydroxy group causing their basicity. They are related to α - and γ -chromanols, flavanols, and anthraquinones. $HgCl_2$ induces similar transformations. On the basis of accumulated exptl. data, the authors propose a general scheme of the homeric transformations of acetylenic glycols, leading to acetylenic ketones by dehydration or to 4-hydroxy-2,5-dihydrofurans by cyclization, with possible further dehydration to substituted furans if H is available in the position. If dehydration is impossible, an alkyne may be formed (2 possible structural isomers). These salts, on hydrolysis and cleavage of the free base, may lead to ethylenic γ -oxo aldes. Similar transformations were observed with 2- and 4-substituted benzoglycols. 12 references.

FABRITSY, A.

chem **Hydroxydihydrofurans. IV. Basic properties of substituted 2-hydroxy-2,5-dihydrofurans.** E. D. Vennus-Danilova and A. Fabritsy (Lensovet Technol. Inst., Leningrad). Zhur. Obshch. khim. 40, 834-841 (1956); cf. C.A.-5, 1471; 49, 280f. Basic properties of 5,5-dimethyl-2,4-diphenyl-3-hydroxy-2,5-dihydrofuran (I) are due to formation of a carbonium ion; this forms salts which are named dihydrocarbonium salts. The mechanism of formation of I in cyclization of acetylenic glycols with H_2SO_4 is discussed (cf. references above). I yields the perchlorate (Ia), yellow, m. 203-4°; picrate, orange, m. 168-9°; salt with $FeCl_3$, $C_{18}H_{15}O_4FeCl_4$, yellow, m. 147-8°; yellow salt with $HgCl_2$ in $EtOH$ soln. $C_{18}H_{15}O_4HgCl_2 \cdot H_2O$, decomp. 160°. salt with $HgBr_2$ in HBr , $C_{18}H_{15}O_4HgBr_2 \cdot H_2O$, m. 180-5° (from $MeOH$). Refluxing 0.3 g. 2-hydroxydihydrofuran with 0.3 g. 1-phenyl-3-methyl-5-pyrazolone in $MeOH$ 4 hrs. gave after standing 2 days in an open flask 63.5% colorless II, m. 137-8°. Ia (18 g.) with $MeMgI$ from 39 g. MeI gave after aq. treatment with NH_4Cl 78% 2,2,5-trimethyl-3,5-diphenyldihydro-3,5-furan, b. 163°, n_D^{20} 1.5730, d_4^{20} 1.0660, which with 1.5% $KMnO_4$ gave $AcPh$, HCO_2H , $BrOH$, and methoxyphenylglycolic acid, m. 65-7° (A₉ salt analyzed).

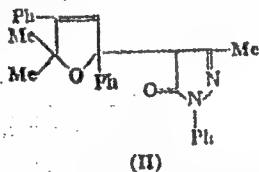
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Venus-DANILOVA, E.D., Fabritsy, A.

The tarry material from the synthesis of I by cyclization of unsym. dimethylphenyl(phenylethynyl)ethylene glycol with H_2SO_4 , after standing 5-6 months gave some 2-methyl-3,5-diphenyl-1,3-pentadien-5-one, m. $92-3^\circ$; 2,4-dinitrophenylhydrazones, red, m. $155-6^\circ$; ozonolysis of the ketone gave apparently acetylbenzoyl- and 2,5-diphenylquinone, as well as H_2O , benzoylformic acid, and HCO_2H ; the yield of ketone is 9-10%. Potentiometric titration of I gave a hydrolysis constant of about 1.2×10^{-3} in 60% $MgCO_3$. The ultraviolet absorption spectrum of I is shown (λ 252 m μ); HCl salt, λ 252, 308, 400 m μ ; HBr salt, λ 248, 306-8, and 400 m μ .



G. M. Kozlov

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FABRITSY, A.

Handwritten: 11/10/50
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Hydroxydihydrofurans. IV. Basic properties of sub-
stituted 2-hydroxy-2,5-dihydrofurans. *Handwritten:* 11/10/50
and A. Fabritsy. *Handwritten:* 11/10/50
1950. English translation. *Handwritten:* 11/10/50

VENUS-DANILOVA, E.D.; ~~FABRITSY, A.~~; ORLOVA, A.N.

Study of oxydihydrofurans. Part 5. Basic properties of 5,5-dimethyl-2-tert-butyl-4-phenyl-2-oxydihydrofuran-2,5. Zhur.ob.khim.
26 no.4:1160-1165 Ap '56. (MLBA 9:8)
(Furan)

FABRITSY, A.
USSR/Organic Chemistry. Synthetic Organic Chemistry. E-2

Abs Jour: Ref Zhur - Khimiya, No. 8, 1957, 26883.

Author : Venus-Danilova, E.D., Fabritsy, A.

Inst :

Title : Study of Conversions of Pinacols with Replaced
Acetylene Radicals. XI. Action of Mercury
Chloride and Bromide on Asymmetrical Dimethyl-
phenyl-Acetylenyl-Ethyleneglycol.

Orig Pub: Zh. obshch. khimii, 1956, 26, No. 6, 1609 -
1616.

Abstract: The following compounds were obtained by boiling
equimolar amounts of 2-methyl-3,5-diphenylpen-
tane-4-diol-2,3 (I) and HgCl_2 in alcohol solu-
tion 1 to 6 hours: 5,5-dimethyl-2,4-diphenyl-
2-oxydihydrofuran-2,5 (II), melting point 160-
161° (decomposes), the mercury complex thereof

Card 1/4

Leningrad Technological Inst in Leningrad.

USSR/Organic Chemistry. Synthetic Organic Chemistry. E-2

Abs Jour: Ref Zhur - Khimiya, No. 8, 1957, 26883.

together with II in the composition of III. The presence of II in the reaction mixture means that the isomerization of I into II proceeds, as it seems, more rapidly than the interaction of I with HgCl_2 , though the mechanism of II formation has not been made clear. It has been established that II does not react with HgCl_2 , and that I is converted into II in presence of 20%-ual HCl , yield 52%. The mercury complex $\text{C}_{18}\text{H}_{17}\text{OHgBr}_3 \cdot \text{H}_2\text{O}$ (melting point 180-183°) described by the author earlier (see RZhKhim, 1956, 71562) was produced by the interaction of I with HgBr_2 (yield 84%). It is surmised that IV forms from I and HgCl_2 according to the scheme: $\text{I} + \text{HgCl}_2 \rightarrow (\text{CH}_3)_2\text{C}(\text{OH})\text{C}(\text{C}_6\text{H}_5)-(\text{OH})\text{C}(\text{HgCl})=\text{CClC}_6\text{H}_5 \rightarrow (\text{CH}_3)_2\text{C}(\text{OH})(\text{C}_6\text{H}_5)=\text{C}(\text{HgCl})-$

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FABRITSY, A.

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Fabritsy, A.

Transformations of pinacones with substituted acetylene
residues. XII. Action of mercuric acetate on unsym-di-
methylphenyl(phenylethynyl)ethylene glycol. E. D. Venkov,
Danileva and A. Fabritsy (Lensoviet Technol. Inst. 1934).

ST. 1934. Heating a 1:1 mixture of (OH)CPh(OH)CPh in 90% AcOH gave
83.5-87% glassy substance containing 24% H₂O. The
entirely impure $Me_2C(OH)CPh.C_6H_5OAc$ with a
proportion of reactants the yield dropped to 50%. The
product forms a 2,4-dinitrophenylhydrazone, decomp. 144°. The
substance dissolves with fluorescence in aq. H₂SO₄ and
reacts with concd. HCl yielding a yellow complex, $C_{16}H_{14}O_2$
 $OH_2Cl.H_2O$, decomp. 160-1°, and 2-hydroxy-2,5-dihydro-
furan. The glassy product with alc. HCl gave $Me_2C(OH)CPh$
 $CF_3.C_6H_5CBz.C_6H_5CM_2OH$, m. 154-5°. If the glycol
and Hg(OAc)₂ react in EtOH, there is formed in 3 hrs.
refluxing 100% 1, m. 104-106°, 2,4-dinitrophenylhydrazone,
decomp. 144°; $CaCl_2$ with pure 1 yields a substance, m.
165-6°, identical with that formed from glassy 1 and $CaCl_2$.
Refluxing 5,5-dimethyl-2,4-diphenyl-2-hydroxy-2,5-dihydro-
furan with Hg(OAc)₂ in EtOH 5 hrs. gave 66% 5,5-di-
methyl-2,4-diphenyl-3-acetomercuri-2-hydroxy-2,5-dihydro-
furan, m. 90-95°; 2,4-dinitrophenylhydrazone, decomp.
144°; the furan deriv. with $CaCl_2$ forms a product, m. 200-
2°, identical with that formed from the glycol, H₂Cl₂, and
NH₃ (loc. cit.).

G. M. Kuznetsov

Fabritsy, A.

Transformations of pinacones with substituted acetylenic radicals. XIII. Action of salts of mercury on unsym-methyl(diphenyl(phenylethynyl)ethylene glycol and tri-methyl(phenylethynyl)ethylene glycol. E. D. Venus-Dani-lava and A. Fabritsy (Lensovet Technol. Inst., Leningrad) Zhur. Obshch. Khim. 26, 2455-56 (1958), cf. preceding abstr. —Treatment of $\text{Me}_2\text{C}(\text{OH})\text{CMe}(\text{OH})\text{C}_2\text{Ph}$ with an equimolar amt. of HgCl_2 in 95% EtOH with ice cooling yielded a yellowish sparingly-sol. solid which darkens at 135° , and which was identified as the HgCl_2 salt of 4,5,5-trimethyl-2-phenyl-5-chloromercuri-2-hydroxy-2,5-dihydro-furan. If the reaction is run in the presence of a small amt. of concd. HCl there is obtained 66% colorless product, m. $162-3^\circ$ (decompn.), identified as the HgCl_2 salt of 4,5,5-trimethyl-2-phenyl-2-hydroxy-2,5-dihydrofuran. The 1st salt is $\text{C}_{17}\text{H}_{19}\text{OCl}_2\text{Hg}$, the 2nd is $\text{C}_{17}\text{H}_{19}\text{OClHg}$. Treat-ment of $\text{Ph}_2\text{C}(\text{OH})\text{CMe}(\text{OH})\text{C}_2\text{Ph}$ with HgCl_2 in 95% EtOH as above gave after 0.5 hr. at 50° a yellowish amor-phous product, $\text{C}_{21}\text{H}_{23}\text{O}_2$, m. $110-23^\circ$, which is apparently formed by loss of 2 moles H_2O from 2 moles of the glycol; oxidation with KMnO_4 gave BzOH and Ph_2CO ; the sub-stance did not appear to be homogeneous. Similar re-action with $\text{Hg}(\text{OAc})_2$ at room temp. gave 68.7% $\text{Ph}_2\text{C}(\text{OH})\text{CMe}(\text{OH})\text{C}(\text{H}_2\text{OAc})\text{CF}_3\text{OAc}$, which decomp. on warming in EtOH forming an amorphous yellow mass sol. in org. solvents, which is apparently a form of $\text{Ph}_2\text{C}(\text{OH})\text{CMe}(\text{OH})\text{C}(\text{H}_2\text{OAc})\text{CF}_3\text{OAc}$. G. M. Kozlovskii

FABRITSY, 11

VENUS-DANILOVA, E.D.; PAVLOVA, L.A.; FABRITSY, A.

Study of oxydihydrofurans. Part 6: Reaction of 5,5-dimethyl-2,4-diphenyl
-2-oxydihydrofurna-2,5 and 2,4-dinitrophenylhydrazine. Zhur. ob. khim.
27 no.9:2423-2429 S '57. (MIRA 11:3)

1. Leningradskiy tekhnologicheskij institut imeni Lensoveta.
(Furan) (Hydrazine)

AUTHORS: Pavlova, L. A.; Fabritsy A.
Venus-Danilova, E. D.

71-03 3-19/61

TITLE: Investigation of the Reactions of Pinacols With Substituted Acetylene Radicals (Issledovaniye prevrashcheniy pinakonov s zameshchennymi atsetilenovymi radikalami). XV. The Action of Sulfate of Mercury on the Asymmetric Dimethylphenyl-Phenyl-Acetylenyl- and the Asymmetric Methyl-Diphenyl-Phenylacetylenyl-Ethylene-Glycols (XV. Deystviye sernokisloy rtuti na nesimm.dimetil-fenil-fenil-atsetilenil i nesimm.metil-difenil-fenilatsetilenil-etilen_glikoli)

PERIODICAL: Zhurnal Obshchey Khimii, 1958. Vol. 28. Nr 3, pp. 651-657 (USSR)

ABSTRACT: Using mercury salts the authors have not succeeded until now in obtaining hydration products of acetylene-double-tertiary α -glycols. It was observed that the asymmetric methyl-diphenyl-phenylacetylenyl-ethylene glycol (formula I b) in aqueous as well as in acetone solution converts to the earlier described $C_{46}H_{36}O_2$ (ref. 3) in the presence

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Investigation of the Reactions of Pinacols
With Substituted Acetylene Radicals.

TP-13-3-19/61

XV. The Action of Sulfate of Mercury on the Asymmetric Dimethylphenyl-
-Phenyl-Acetylenyl- and the Asymmetric Methyl-Diphenyl-Phenylacetylenyl-
ethylene-Glycols

of small amounts of sulfuric acid. It can be assumed from the dehydration and the regrouping within the molecule that in the beginning a 2,5,5-triphenyl 4-vinyl-dihydrofurfuran-4,5 is formed which then converts to a dimer, analogous to 2,3,3,4-tetramethyl-2-(β,β) dimethylvinyl-dihydrofurfuran-2,3 (ref. 4). The parallel experiment to convert glycol (I b) with diluted sulfuric acid without sulfate of mercury was not successful, as was to be expected. The asymmetric dimethyl-phenyl-phenylacetylenyl-ethylene glycol (I a) was subjected to the action of sulfate of mercury on various conditions. In aqueous and weakly acidous sulfuric acid 5,5-dimethyl (-2,4-diphenyl-2 oxydihydrofurfuran-2,5 (II) resulted, in acetone solution a viscous oil which did not have any hydroxyl group and slowly decolored a bromo- and potassiumpermanganate solution. The synthesized product could be obtained pure by vacuum distillation. The same product resulted from the action of sulfate of mercury on glycol in acetone solution. According to its elementary solution and its molecular weight this

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Investigation of the Reactions of Pinacols With
Substituted Acetylene Radicals.

79-28-3-19/61

XV. The Action of Sulfate of Mercury on the Asymmetric Dimethylphenyl-
-Phenyl-Acetylenyl- and the Asymmetric Methyl-Diphenyl-Phenylacetylenyl-
Ethylene-Glycols

product could either be an isopropylidene derivative of glycol (VII) or that of a condensation ^{of}oxydihydrofurfurans (II) with acetone-5,5-dimethyl-2,4-diphenyl-2-acetonyl-dihydrofuran-2,5 (VIII). The attempt to try and obtain the bond (VIII) by condensation of dihydrofurfurans (II) with acetone was successful. The heating of the acetone solution of the compound (II) with sulfate of mercury lead to a product which is identical with the one synthesized from glycol ^{under} these conditions. This experiment makes it possible to acknowledge the compound obtained from glycol in acetone solution under the action of sulfate of mercury, as being 5,5-dimethyl-2,4-diphenyl-2-acetonyl-dihydrofuran-2,5. The identity of the products obtained from (I a) and (II) was illustrated by taking the absorption spectra in ultraviolet light.

There are 2 figures and 12 references, 10 of which are Soviet.

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Investigation of the Reactions of Pinacols With
Substituted Acetylene Radicals.

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XV. The Action of Sulfate of Mercury on the Asymmetric Dimethylphenyl-
-Phenyl-Acetylenyl- and the Asymmetric Methyl-Diphenyl-Phenylacetylenyl-
Ethylene-Glycols

ASSOCIATION: Leningradskiy tekhnologicheskii institut imeni Lensovet
(Technological Institute imeni Lensovet , Leningrad)

SUBMITTED: January 23, 1957

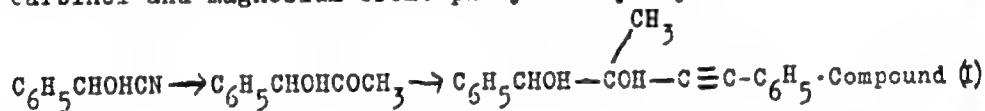
Card 4/4

AUTHORS: Fabritsy, A., Venus-Danilova, E. D. SOV/79-28-12-14/41

TITLE: Investigation of the Transformations of Sec-Tert- α -Glycols of the Acetylene Series Under the Action of Mercury Salts (Issledovaniye prevrashcheniy vtorichno-tretichnykh α -glikoley atsetilenovogo ryada pod vliyaniyem soley rtuti) III. 2-Methyl-1,4-Diphenyl Butyne-3-Diol-1,2 (III.2-metil-1,4-difenilbutin-3-diol-1,2)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol 28, Nr 12, pp 3227-3231 (USSR)

ABSTRACT: The results of the reaction of another (Refs 1, 2) sec-tert- α -glycol of the acetylene series, of 2-methyl-1,4-diphenyl butyne-3-diols-1,2(I) with mercury chloride and sulfate in alcohol solution are described. This glycol was synthesized according to Zh. J. Jotsich from phenyl-acetyl carbinol and magnesium bromo-phenyl acetylenyl:



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on the action of the mercury chloride dissolved in alcohol

Investigation of the Transformations of
 Sec-Tert- α -Glycols of the Acetylene Series Under the Action of Mercury
 Salts. III. 2-Methyl-1,4-Diphenyl Butyne-3-Diol-1,2

SOV/79-28-12-14/41

rapidly separated a white, silk-like product which on heating the mixture gradually entered solution so that 3-methyl-2,5-diphenyl furan (Refs 6, 7-(III)) resulted as final product. It turned out that the final product obtained as crystals contained mercury and chlorine, and that, according to its analysis, it corresponded to the mercurized 3-methyl-2,5-diphenyl furan (II). It is considerably stable, even does not change on boiling with alcohol and water, and passes to a substituted furan only if hydrochloric acid is added, and on heating. Based on these results it may be assumed that the transition of the sec-, tert-, α -glycols of the acetylene series to the substituted furans takes place under the action of mercury chloride by way of the mercurized furans according to scheme 2. There are 13 references, 10 of which are Soviet.

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Investigation of the Transformations of
Sec-Tert- α -Glycols of the Acetylene Series Under the Action of Mercury
Salts. III. 2-Methyl-1,4-Diphenyl Butyne-3-Diol-1,2

SOV/79-28-12-14/41

ASSOCIATION: Silezskiy politekhnicheskii institut, Pol'sha i
Leningradskiy tekhnologicheskii institut imeni Lensovet
(Silesian Polytechnic Institute, Poland, and Leningrad
Technological Institute imeni Lensovet)

SUBMITTED: December 20, 1957

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FABRITSY, A.; GOSHCHINSKIY, S.

Effect of mercury salts on 2-methyl-4-phenyl 1,2-butene-3-diol. Zhur.ob.
khim. 29 no.1:81-86 Ja '59. (MIRA 12:4)

1. Silezskiy politekhnicheskii institut, Pol'sha.
(Mercury salts) (Butenediol)

FABRITSY A.; KUBALYA, I.

Reactions of mercury salts with secondary-tertiary α -glycols of the acetylene series. Part 3: 5,5-dimethyl-1,2-diphenyl-3-hexyne-1,2-diol and mercuric chloride and sulfate. Zhur. ob. khim. 30 no.11:3604-3607 N'60. (MIRA 13:11)

1. Silezskiy politekhnicheskii institut, Pol'skaya Narodnaya Respublika.

(Hexynediol) (Mercury chloride) (Mercury sulfate)

FABRITSY, A.; KUBALYA, Y.

Reactions of mercury salts with secondary-tertiary acetylenic α -glycols. Part 4: 1,2,4,-Triphenyl-3-butyne-1,2-diol, 3-methyl-5-phenyl-4-pentyne-2,3-diol, and mercuric chloride. Zhur. ob. khim. 31 no. 2:476-479 F '61. (MIRA 14:2)

1. Slezziyskiy politekhnicheskii institut, Porskaya Narodnaya Respublika.

(Butynediol) (Pentynediol) (Mercury chloride)

FABRITSY, A.

Preparation of stable salts of 4, 5, 5-trimethyl-2-phenyl-2, 5-hydrofurylium. Zhur.ob.khim. 31 no.5:1548-1551 My '61.
(MIRA 14:5)

1. Silezskiy politekhnicheskii institut, Pol'skaya Narodnaya Respublika.

(Furan)

PISICA, Constantin; FABRITIUS, Klaus

Contributions to the study of the Prostotrupoidea (Hym.),
in Rumania. Anal St Jassy II 10:121-124 '64.

FABRY, A.

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VESTNIK. Praha, Czechoslovakia, Vol. 5, No. 7/8, 1958.

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Unclassified.

FABRY, Andrej, inz., ScD.

Effect of the sowing time on the transition dynamics of winter varieties of rape and colza into the generative phase. Rost vyroba 9 no.5:525-540 '63.

1. Vysoka skola zemedelska, katedra rostlinne vyroby, Praha.